

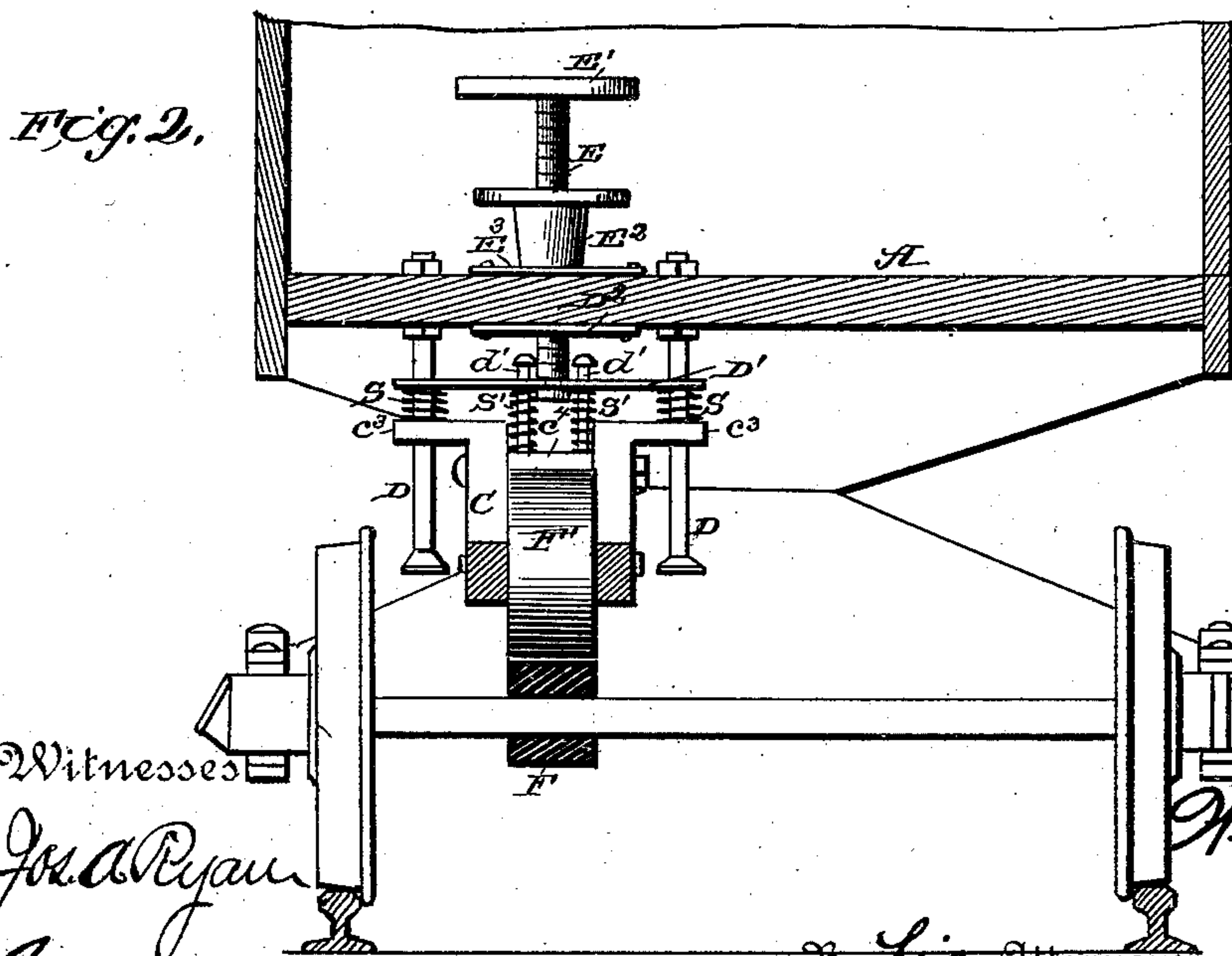
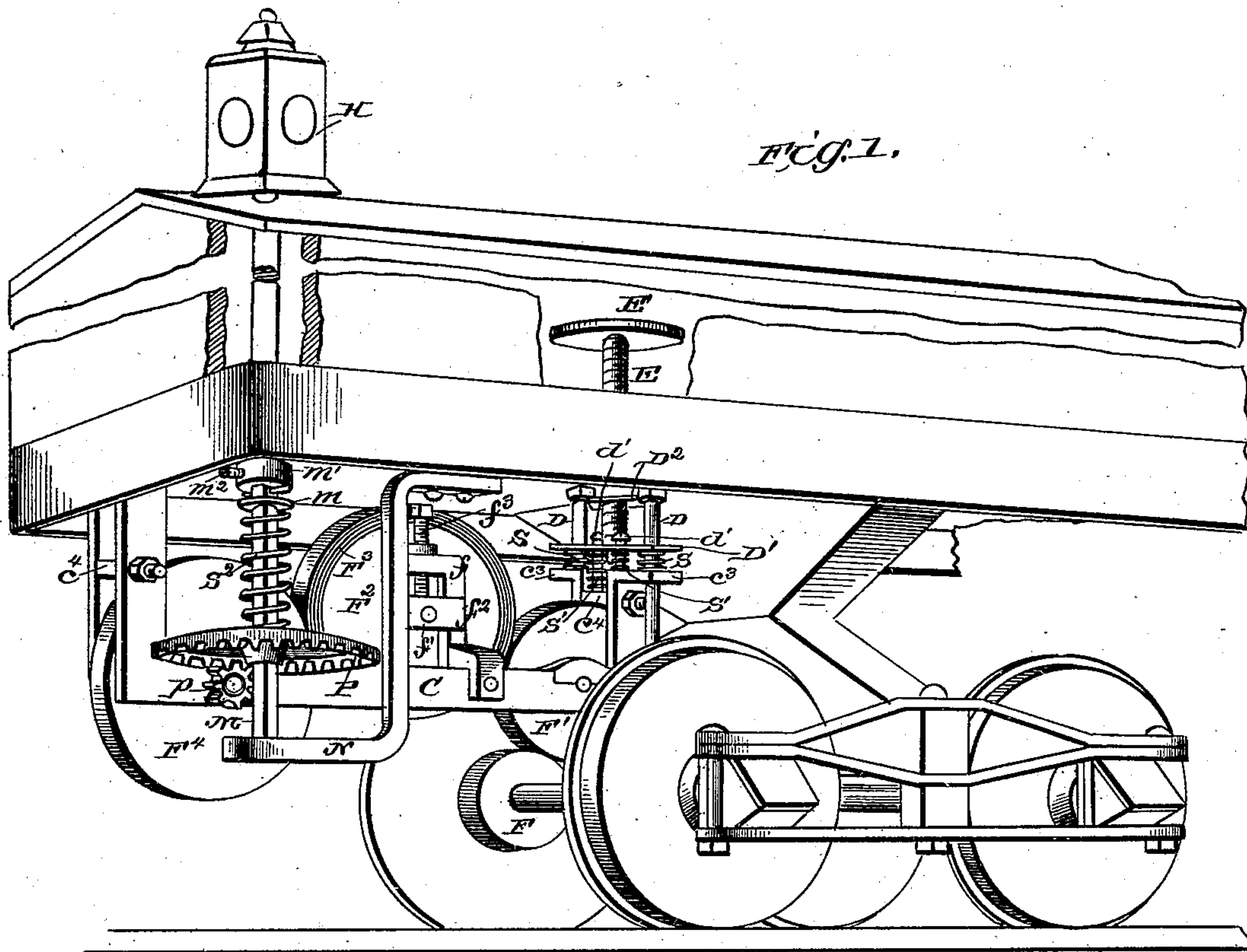
(No Model.)

2 Sheets—Sheet 1.

W. BOLSON.
REVOLVING SIGNAL LIGHT.

No. 373,047.

Patented Nov. 15, 1887.



Witnesses

Jos. A. Ryan

Chas. H. Ryan

Inventor

Wm. Bolson

By his Attorneys

C. H. Howland

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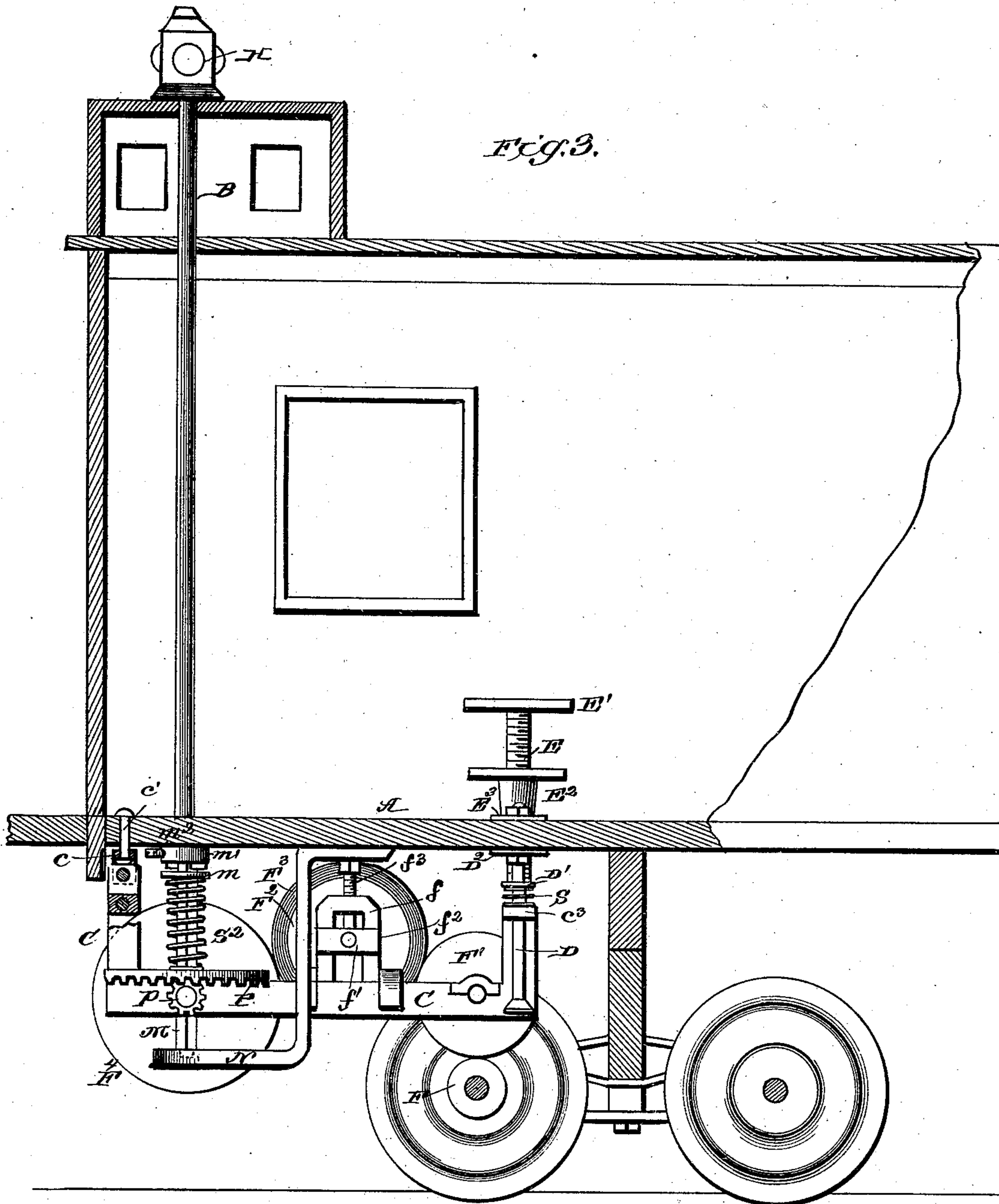
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UNITED STATES PATENT OFFICE.

WILLIAM BOLSON, OF OCONOMOWOC, WISCONSIN.

REVOLVING SIGNAL-LIGHT.

SPECIFICATION forming part of Letters Patent No. 373,047, dated November 15, 1887.

Application filed June 17, 1887. Serial No. 241,651. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BOLSON, a citizen of the United States, residing at Oconomowoc, in the county of Waukesha and State of Wisconsin, have invented a new and useful Improvement in Revolving Signal-Lights, of which the following is a specification.

My invention relates to improvements in revolving signal-lights; and it consists in the construction and arrangement of the parts of the same, which will be more fully hereinafter described, and particularly pointed out in the claims.

The object of my invention is to provide a revolving signal-light which is adapted to be operated through the medium of translating mechanism, through which motion is imparted from one of the axles of the truck-wheels. I attain this object by the construction illustrated in the accompanying drawings, wherein like letters of reference indicate similar parts in the several views, and in which—

Figure 1 is a perspective view of my improved device. Fig. 2 is a cross-section thereof. Fig. 3 is a longitudinal vertical section on an enlarged scale.

A indicates a portion of the floor of a caboose-car, upon which my improved signal-light is mounted in connection with the coupler B. Secured to the under side of the floor A is a hanger-casting, C, which forms the bearings and supports for the mechanism adapted to revolve the light. This hanger C is pivotally mounted in the bracket c at one end by means of a pintle-rod, c' , passing therethrough. The hanger-casting C is movably mounted on two pins or bolts, D, which project downwardly from the under side of the floor A and pass through apertures formed in angular projections c^3 , constructed integrally with the said casting. The two bolts or rods D also support a plate, D' , by passing through apertures in the end thereof, the said plate having coiled springs S S, which surround the rods D, arranged between the under sides thereof on the top surface of the projections c^3 . In the central portion of the plate D' two short posts, d' , are secured, which are also encircled by coiled springs S' , which are seated between plates, c^4 , secured in the open portion of the casting C, and under the plate D' . These short posts d' rest in the plates c^4 , and by

means of the springs S and S' , as thus described, the end of the casting, on which the said parts are mounted, is cushioned against shocks or jars. The opposite end of the casting C is in like manner provided with the tie-plates c^4 , similarly constructed and mounted as the plate c^4 at the other end of the said casting. Above the plate D' , and secured to the under side of the platform A, a bearing-plate, D^2 , is mounted, through which a screw-rod, E, having a hand-wheel, E' , passes, and is adapted to adjust the casting as may be desired.

The hand-wheel E' , situated on the top surface of the platform A, is adapted to be operated from this point to control the revolution of the light, as will be more fully hereinafter described. A guard-collar, E^2 , is mounted on the screw-rod E, and by adjusting the said collar after the hand-wheel has been turned to adjust the mechanism beneath, the screw-rod is prevented from turning by turning the said collar down in contact with a plate, E^3 , secured to the top surface of the car frame or platform, and to which the said screw-rod E passes. The lower end of the said screw-rod E passes through the plate D' , when it is adapted to adjust the casting C, as will be readily understood and seen by the drawings. When the end of the casting C is adjusted by means of screw-rod E, the other end of the casting will have a hinged motion due to the construction heretofore described.

Upon one of the axles of the truck-wheels a rubber collar, F, is rigidly secured, with which a friction wheel or disk, F' , engages when adjusted, through the medium of the casting C. In the central portion of each of the arms of the casting C an upright journal-bracket, f , is secured, having a movable box or journal, f' , constructed with flanges f^2 , which engage with the outer surface of the arms of the upright, and through which the shaft of the central disk, F^2 , passes. The boxing f' is adapted to be adjusted by means of a set-screw, f^3 , which passes through the top of the upright casting f and presses against the top of the movable box f' . The periphery of the disk F^2 is surrounded by a rubber rim, F^3 , which is adapted to bear against the periphery of the wheel F' . Ahead of the wheel F^2 a third wheel, F^4 , is mounted, which is of larger diameter than the wheel F^2 , the said wheel F^2 being of larger di-

ameter than the wheel F' , by which construction the rapid motion of the truck-axle will be converted into a slower motion and translated by the wheel F^1 . The wheels F^1 and F' are each provided with suitable shafts or axles which have bearings in the two portions of the bracket C. On the end of the shaft passing through the wheel F^1 a pinion, p , is rigidly secured, which engages with a horizontally-arranged face-gearing, P, mounted on a shaft, M, which projects up through the floor A and through the cupola B of the caboose, and has the signal-light H mounted on the upper end thereof and above the top of the cupola B, as shown. The lower end of the shaft M is stepped in a depending bracket or hanger, N, which is secured to the under side of the floor. The gear-wheel P is movable on the shaft M, and between a collar, m , secured on the said shaft adjacent to the under side of the floor A, and the top portion of the collar of the gearing P a coiled spring, S^2 , is mounted, thereby providing means for throwing the gear P into continual mesh with the pinion p , in whatever position the casting C may be placed. Surrounding the shaft M, immediately under the floor A, is a collar, m' , secured to said shaft by a set-screw, m^2 , and by means of which the light is held in a proper elevation desired, preventing a displacement of the shaft M from its proper position.

The rubber disk F on the axle of the truck bears against the wheel F' and imparts motion thereto, the said wheel F' translating its motion to the wheel F^2 , and the wheel F^2 to its rubber disk F^3 , to the wheel F^4 , and from thence to the pinion p to the gear P, which revolves the shaft M and the signal-light H. Tighter contact between the wheel F' and the rubber collar F is obtained by regulating the screw-rod E, as hereinbefore set forth. In adjusting the central wheel, F^2 , to produce a more firm frictional contact between its rubber disk F^3 and the peripheries of the wheels F' and F^4 , the adjustable boxing is operated, as hereinbefore set forth. Thus it will be seen that a revolving motion will be imparted to the light H and an alternate safety and danger signal to flash thereby, for the purposes desired.

My improved signal is intended more especially for use at night to prevent collisions with the rear portions of freight and passenger trains by the trains running behind the same on the same track. The revolution of the light will indicate that the car upon which it is used is moving, so that the engineer of the rear train will be notified of the fact by the flash of the signal, and thereby prevent a collision. In the day-time the signal is caused to cease its revolution by unscrewing the screw E and releasing the wheel F' from contact with the wheel F. By this latter operation the signal is caused to remain stationary and ready for connection to cause revolution thereof at any time when necessary.

The novelty and utility of my improvement

are obviously apparent, and it is unnecessary to further enlarge upon the same herein.

It is obvious that many minor changes in the construction and combination of the various parts may be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, I claim—

1. In a revolving signal-light, the combination of the disk F, mounted on the truck-axle, the wheels F' , F^2 , and F^4 , arranged as described, the adjustable bracket-frame C, supporting the said wheels, the pinion p at one end of the frame C, and operated by the wheel F^4 , the face-gear P, adapted to engage the pinion p , the shaft M, upon which the face-gear P is mounted, the bracket-arm N, in which the said shaft is stepped, and the signal-light H on the upper end of said shaft, substantially as described.

2. In a signal-light, the combination of the vertical shaft M, stepped at its lower end in the bracket-arm N, the signal-light H, carried on the upper end of the said shaft, the two frictional wheels F' and F^4 , having an adjustable wheel, F^2 , provided with a rubber tire or rim, mounted between the same, said wheels operating the said shaft M through intermediate gearing, the adjustable bracket C, carrying the said wheels, and the disk F on one of the truck-axes, substantially as described.

3. The combination of the shaft M, having the signal-light H mounted on its upper end, the series of friction-wheels operating the said vertical shaft, the adjustable bracket C, in which the said wheels are mounted, the rubber disk F on the truck-axle, adapted to impart motion to said friction-wheels from the said axle, and the screw-rod E for adjusting the bracket C, substantially as described.

4. The combination of the casting C, hinged at one end to the under side of the floor of the car, the frictional wheels arranged therein, the rubber disk F, mounted on the truck-axle, the rods D, passing through the angular projections of the casting C, the plate D' , and the adjusting screw-rod E, having the operating hand-wheel E' , arranged above the top surface of the car-floor, substantially as described.

5. The combination of the casting C, hinged to the under side of the car-floor at one end, the rods D, passing through the angular projections at the other end of said casting, the series of friction-wheels F' , F^2 , and F^4 , and the vertically-adjustable boxings f' , in connection with the wheel F^2 , mounted in standards f , secured to the bracket C, substantially as described.

6. The combination of the casting C, hinged to the under side of the caboose-frame at one end thereof, the rods D, secured to the under side of the floor A of the said frame and passing through apertures in the angle projections formed with the said casting C, the plate D' , mounted on the said rods D, the short rods d' ,

passing through the said plate D', between the rods D, the tie-plate c⁴, mounted between the angular projections c³ of the casting C, the coiled springs S and S', surrounding the rods D and d', and the vertical screw-rod E, secured at its lower end to the plate D' and projecting above the caboose platform or flooring, substantially as described.

7. In combination with the frame C, carrying the frictional gearing for operating a signal-light, two rods, D, the rods d', supported by the bracket, and the plate D', in connection with the said rods, the screw-rod E, secured at its lower end to the plate D', and having a wheel, E', on its upper end, and the clamping-collar E² on the said rod E above the caboose platform, substantially as described.

8. The combination, with the adjustable bracket-frame C, of the series of wheels F', F², and F⁴, mounted in the said bracket-frame, the disk or wheel F, mounted upon the axle of the truck, the pinion p, mounted at one end of the said bracket-frame, the face-gear P, adapted to engage with the pinion p, the shaft M, upon which the face-gear P is mounted and having the signal-light at its upper end, the collar m, mounted on the shaft M, the coiled spring S², mounted on the shaft M, between the said collar m and the face-gear P, and the collar m', having a set-screw, m², also mounted on the shaft M above the collar m and adjacent to the flooring of the caboose, substantially as specified.

9. The combination, with the adjustable bracket-frame C, of the friction-wheels F' and F⁴, the central wheel, F², having the peripheral rubber disk F³, adapted to engage with the wheels F' and F⁴, the vertically-adjustable boxes f', mounted in standards f, secured to the bracket-frame C, and in which the ends of

the shaft of the wheel F² are mounted, the disk F on the truck-axle, for operating the wheels F', F², and F⁴ therefrom, and the shaft M, carrying the signal-light rotated by said frictional gearing, substantially as specified.

10. The combination, with one of the truck-axles of a caboose carrying a disk thereon, of the frictional gearing, the adjustable bracket C, in which said frictional gearing is mounted, the signal-light in connection with the said gearing and rotated thereby, and the screw-rod E, in connection with one end of the adjustable bracket C, for disengaging the gearing carried thereby from the axle, substantially as specified.

11. The combination, with one of the axles of a caboose-truck, of the rubber disk F thereon, the bracket-frame C, and the frictional translating-gearing mounted in said bracket and adapted to have motion imparted thereto from the said rubber disk, and the shaft carrying the signal-light and connected to the said gearing, substantially as described.

12. The combination, with the frictional gearing operated by a disk on the axle of a caboose-truck to revolve a shaft carrying a signal-light, of the adjustable bracket-frame carrying a portion of the said gearing, and the screw E, in connection with said bracket, to vertically adjust the same and thereby engage or disengage the gearing from connection with the disk F, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM BOLSON.

Witnesses:

GUS LEHMANN,
JOHN DOUGHERTY.